

# Watershed Management Initiative Planning Document Region 7 Revised Chapter

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# 1 Overview of Region 7 Watershed Management Strategy

## 1.1 Introduction

The Colorado River Basin Region covers approximately 13,000,000 acres (20,000 square miles) in the southeastern portion of California. It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. It is bounded on the east by the Colorado River, to the south by the Republic of Mexico, to the west by the Laguna, San Jacinto, and San Bernardino Mountains; and to the north by the New York, Providence, Granite, Old Dad, Bristol, Rodman, and Ord Mountain Ranges. Figure 1, below, shows the Region's main watersheds. However, from a practical perspective, the Region as a whole can be thought of as a "super watershed" that includes the Salton Sea Basin, as much of the water from the other watersheds, in particular water from the Colorado River, makes it back to the Basin in the form of seepage, agricultural runoff, and wastewater.

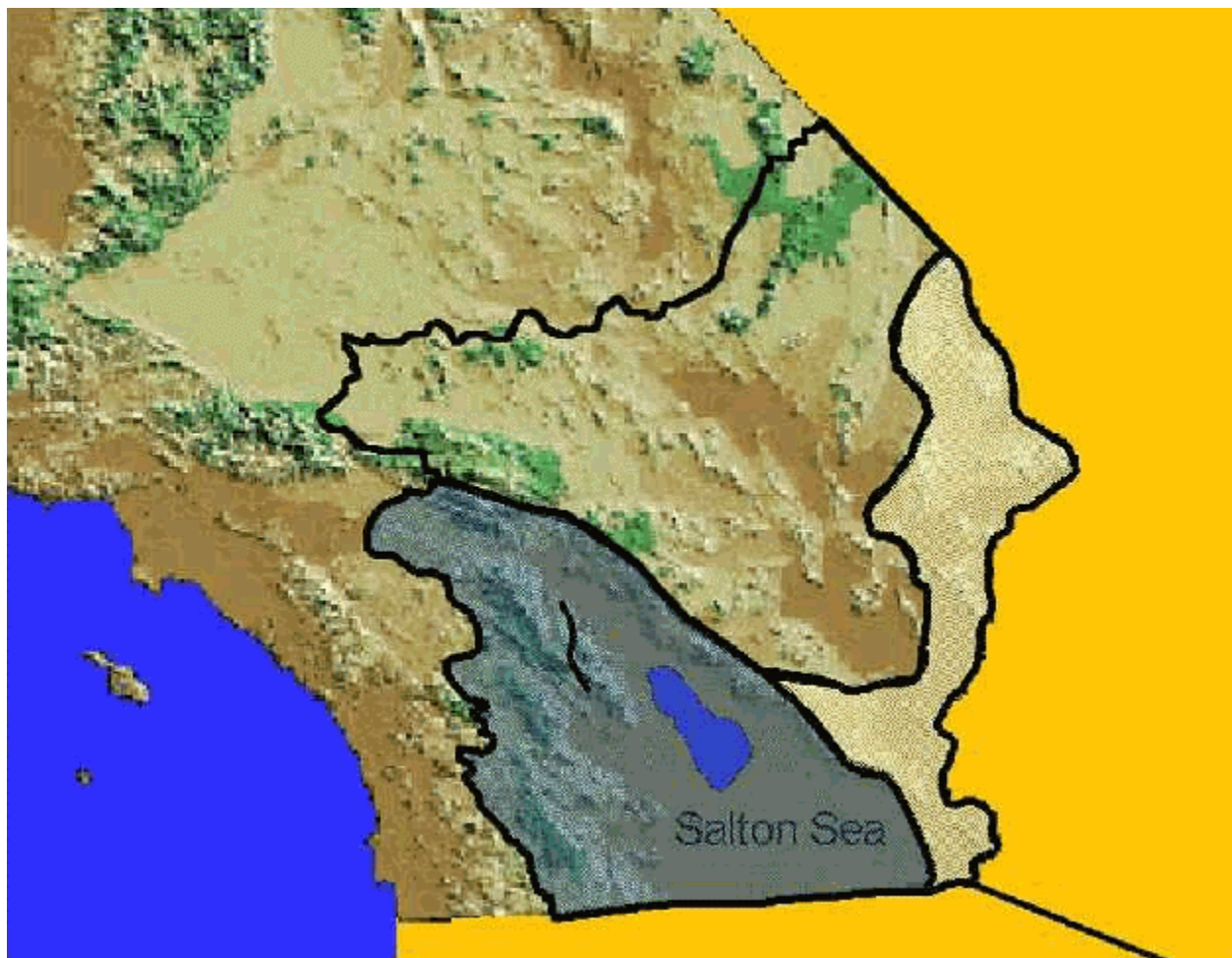


Figure 1 – Region 7 Main Watersheds

This desert region is one of extreme contrasts in geology, climate, and water resources. The central and most striking feature of the region is the Salton Trough, a geologically active spreading center and the northernmost extension of the Gulf of California. At the center of this closed basin lies the Salton Sea, a shallow waterbody with a surface elevation of 227 feet below sea level (bsl), and a bottom depth of approximately 280 feet bsl. The Salton Sea is California's largest inland body of water. It is currently 25% saltier than the ocean, with a salt concentration of 45 parts per thousand (ppt). Without a natural outlet, the salinity increases approximately 1% per year. The Sea is maintained primarily by agricultural drainage from irrigated areas of the Coachella Valley to the north, and the Imperial and Mexicali Valleys to the south. The New River also contributes untreated and partially treated municipal and industrial wastes discharged in Mexico. Nonpoint source (NPS) pollution from agricultural practices represents a major threat to water quality in the Region.

The Salton Trough is bounded on the northern, eastern and western sides by one of the largest earthquake fault systems in the world, the San Andreas Fault (the southern boundary is defined by the Mexicali Valley watershed drainage to the Salton Sea). The northern boundary is formed by the apex of the San Jacinto Fault on the western side joining the main branch of the San Andreas Fault coming from the east. The resulting geologic forces have created spectacular mountains rising over 10,000 feet above Palm Springs, and a tremendous groundwater aquifer beneath the Coachella Valley. This high quality groundwater is essentially the sole source of drinking water for the Coachella Valley, and commands the highest level of protection.

Encompassing over one-third of the Region, the Salton Sea Transboundary Watershed has the best and worst water quality in the Region, and is the priority watershed for purposes of this Chapter. Other Regional Watershed areas include the Lower Colorado River Watershed, and various high and low desert groundwater basins, which are often the sole source of drinking water for desert communities.

## **1.2 Management Strategy**

Regional water quality goals include protection of drinking water resources and efforts to improve water quality in impaired water bodies to support beneficial uses throughout the Region. This will be accomplished through implementation of core regulatory programs and basin planning/watershed activities, as described below.

### **1.2.1 Core Regulatory Programs**

Programs covered under core regulatory include Chapter 15 and Non-Chapter 15 discharges of waste to land, Department of Defense, National Pollutant Discharge Elimination System (NPDES), Above Ground Storage Tanks, Underground Storage Tanks, Stormwater, and Compliance and Enforcement. These core regulatory programs, with strong compliance and enforcement components, are the backbone of effective water quality protection and pollution prevention throughout the region, and are essential to fulfilling the RWQCB's legislative mandates. These programs are tied to specific fund sources, with explicit state, federal, regulatory and legislative mandates. Activities carried out by these programs are prioritized by individual program commitments.

### 1.2.2 Basin Planning/Watershed Unit

Programs covered by the Basin Planning/Watershed Unit include Basin Planning, Border Pollution, Trend Monitoring, Toxic Substances Monitoring Program, Clean Water Act (CWA) Sections 305(b), (water body assessment), 303(d), (list of impaired water bodies), and Total Maximum Daily Load (TMDL) development requirements. The Nonpoint Source Program (NPS) is focused on addressing implementation of agricultural pollution controls through the TMDL process for listed agricultural pollutants and implementing Management Measures as identified in the 1999 NPS Program update. CWA NPS pollution prevention and pollution control grant projects are solicited and managed by this unit to encourage public education and self determined solutions to NPS pollution. Border Pollution issues and the New River/Mexicali Sanitation Project is included in this unit as part of the Salton Sea Transboundary Basin Watershed. This unit is also responsible for developing innovative solutions to complex problems not addressed by existing core regulatory programs, and coordinating watershed planning and the Watershed Restoration Strategy for the Region with existing core regulatory programs approach. Geographical information systems (GIS) will be extensively utilized in this effort.

### 1.2.3 Internal Reorganization

The CRBR Executive Officer and management has restructured the Basin Planning/ Watershed Unit for the implementation of the WMI in the following manner:

- Overall responsibility for WMI implementation is assigned to the Unit;
- The Border Pollution Program has been incorporated into the Basin Planning/Watershed Unit;
- A new Senior engineer was appointed to supervise the restructured Unit;
- A Senior Specialist has been appointed as the WMI Coordinator for the Region;
- Overall responsibility for water quality data and development and implementation of a GIS program has been assigned to the Unit;
- Two new engineers have been hired to focus on TMDLs, public education/outreach, nonpoint source management, basin planning, data synthesis/evaluation, and grant oversight.

Core regulatory programs will remain intact to carry out their program commitments. Additional resources will be requested and required to address water quality problems which are presently either unaddressed or addressed inadequately. These problems primarily include agricultural source pollution, pollution from Mexico, pollution from septic tanks, and nitrate pollution of groundwater emanating from fertilization of golf courses/greenbelts. Although spread over different watersheds, it is our intention to rank all Regional water quality problems by severity, importance of beneficial uses, and potential correctability to prioritize action. It is thus recognized that rather than focussing all attention on a single designated watershed that the Region will more likely be addressing priority problems, regardless of the watershed where the problem is occurring, throughout the Region.



#### 1.2.4 Protection of High Quality Groundwater

The Coachella Valley aquifer supplies high quality drinking water to virtually all of the valley's rapidly growing population. It is essentially a sole source aquifer, with some recharge provided by of lower quality Colorado River water. Nitrate impairment of this groundwater exceeds drinking water standards in some areas, and has caused a number of municipal supply wells to be shut down. Continued unregulated use of high density septic systems in older, less affluent areas, along with utilization of treated wastewater to irrigate many of the valley's golf courses (totaling over one hundred throughout the Coachella Valley) are suspected sources. A comprehensive groundwater investigation for nitrate impairment in partnership with the United States Geologic Survey has been given highest priority by Region 7 management, as soon as funding becomes available. Following results of this study, staff will draft a Basin Plan Amendment addressing nitrate impairment and septic tank policy.

As Region 7 obtains a GIS system, data layers delineating contamination in groundwater from nitrate, MTBE, high TDS, and other pollutants can be plotted and compared to municipal well locations to determine threats to drinking water quality. When point sources of contamination are determined, core regulatory programs, including cleanup and abatement, can be utilized to require cleanup of impacted areas.



## 2 Priority Watershed Activities

The Watershed Management Initiative (WMI) and the federal Clean Water Action Plan (CWAP) call for designation and prioritization of impaired watersheds in need of restoration within each region. The Salton Sea Transboundary Watershed is the priority and targeted watershed being addressed under the WMI for FYs 98-99 through 99-00 and 00-01 in Region 7. This watershed contains 5 of the region's 6 CWA 303(d) listed impaired surface water bodies, and 15 of the region's 16 303(d) list TMDLs scheduled for development within the next 13 years. Additionally, the Salton Sea Transboundary watershed has been identified as a Category I (Priority Watershed in need of restoration) under the 1998 California Unified Watershed Assessment (UWA).

### ***2.1 Overview of the Salton Sea Transboundary Watershed***

The Salton Sea Transboundary Watershed is located in the Sonoran desert region in the southeastern corner of California. Water imported from the Colorado River has created an irrigated agricultural ecosystem. Aquatic and wildlife habitat created as a result of water imported into the desert are now designated as existing beneficial uses in the Region's Basin Plan. The Regional Board is charged with protecting these beneficial uses in all designated surface waters, including the Imperial Valley agricultural drains, the New and Alamo Rivers, and the Salton Sea. Agricultural runoff from the Imperial Valley provides over 70% of the freshwater inflow to the Sea. Because the Sea is a closed basin (with no outlet) over 280 feet below sea level, evaporation causes salinity to continually increase. Currently Salton Sea salinity is 25 percent greater than ocean water. Effects of increasing salinity and other pollutants are placing great stress on the Sea's fish and wildlife resources. Since 1992, there have been massive die-offs of fish and birds, including some endangered species. The Sony Bono Salton Sea National Wildlife Refuge is located in the southeastern portion of the Sea. The Salton Sea serves as a major stopover for Pacific Flyway migration of millions of birds and provides habitat for five endangered species.

A significant feature of the region is the Salton Trough, which contains the Salton Sea. The Trough is a structural extension of the Gulf of California. In its present form, the Salton Sea is on the site of a prehistoric lake and the result of a break in a temporary levee along the Colorado River in late 1905. For about 16 months after the breach, the Colorado River flowed into the below-sea-level depression then known as the Salton Sink and filled the depression with fresh water to a depth of 80 feet above the depression's lowest elevation. The Sea receives drainage from the Coachella Valley to the north, and the Imperial and Mexicali Valleys to the south. Agriculture is the predominant industry in this watershed, and agricultural NPS pollutants from Imperial Valley are a major source of pollution in the Region.

### 2.1.1 Water Quality Problems

The most significant water quality problems in the watershed are the problems with the Salton Sea, its two major tributaries (the New and Alamo Rivers), and Imperial Valley Agricultural Drains (hereafter "Imperial Valley Drains"). The New River carries urban runoff, untreated and partially treated municipal wastes, untreated and partially treated industrial wastes, and agricultural runoff from the Mexicali Valley. It also carries urban runoff, agricultural runoff, treated industrial wastes, and treated, but currently undisinfected, domestic wastes from the Imperial Valley. The majority of municipal wastewater treatment plants (WWTPs) in the Imperial Valley are either currently disinfecting their effluent, or are in the process of designing and constructing facilities for disinfection purposes. Disinfection is expected to be fully implemented by all WWTPs in the Imperial Valley soon. The Alamo River and Imperial Valley Drains primarily carry agricultural runoff from Imperial Valley.

Urban runoff and domestic and municipal wastes in the New River carry significant amounts of bacteria, which pose a severe threat to public health, particularly near the International Boundary. Agricultural runoff from both Valleys carries pollutants such as salts, silts, nutrients, pesticides, and selenium, which flow into the Salton Sea. The Salton Sea is legally designated as a repository for this agricultural drainage water. Over 70% of the freshwater inflows to the Sea consist of agricultural drain water from Imperial Valley. Because the Sea has no outlet, salts concentrate in it and nutrients enhance the formation of eutrophic conditions. The Sea's salinity problem cannot be directly addressed from a strictly regulatory standpoint; rather a coordinated solution involving stabilization and/or restoration activities must be developed. This effort is currently being led by the Salton Sea Authority, a Joint Powers Authority formed to address the Sea's water quality issues. Water quality impacts to Salton Sea from nutrients will be addressed through the development and implementation of Total Maximum Daily Loads, or TMDLs, for nutrients and silt in Salton Sea and its tributaries. Strong regulatory oversight may be required to encourage implementation of NPS pollution controls by the agricultural community. The Sea also supports a National Wildlife Refuge and is a critical stop on the Pacific Flyway for migrating birds. However, recent catastrophic die-offs of birds and fish indicate the Sea is in serious trouble, and may be unable to support these beneficial uses in the future.

Bacterial pollutants originating in Mexico will need to be addressed by successfully negotiating construction and operation of wastewater disinfection facilities with Mexico, and eliminating remaining discharges of raw sewage into the New River. Binational cooperation is on-going to repair existing wastewater infrastructure (in Mexicali), and to construct a new wastewater treatment plant, which will be known as Mexicali 2. These efforts should significantly reduce the volume of untreated wastewater flowing into the US from Mexico.

With the exception of bacteria and VOCs, the main source of the pollutants listed in the 303(d) list for Region 7 is agricultural runoff. Because IID controls and operates the drainage system for Imperial Valley, Regional Board staff intends to coordinate its TMDL activities closely with IID. Also, the United States Environmental Protection Agency (USEPA), United States Section of the International Boundary and Water Commission (IBWC), Regional Board, State Board, Imperial County, and IID for the U.S; and their counterparts in Mexico (e.g., CILA, CNA, CESP, etc.) are working together in the New River/Mexicali Project, which is a binational effort established by the U.S. and Mexico to address overall New River pollution from the Mexicali Valley. The USEPA,

through the U.S. Section of the IBWC, is the U.S. lead agency for this binational effort, which includes a Policy Committee and Technical Advisory Committee. The Regional Board and State Board are members of these committees. Therefore, Regional Board staff plans to make its current binational activities a part of its TMDL activities for the New River. The USEPA provided funding for the Regional Board's binational activities through FY 1998-99. Moreover, USEPA provided funding to the Regional Board in 1998 to conduct a special water quality study of New River pollution at the International Boundary; the State Board and Regional Board have applied to USEPA for additional funding for FY 1999-2000. USEPA is reviewing the request. Staff believes its binational activities are essential for development and implementation of TMDLs for bacteria nutrients, silt, and pesticides in the New River.

Two other problems of concern within the watershed are bacterial pollution in the Coachella Valley Stormwater Channel (CVSC), and nitrate groundwater contamination in the Coachella Valley Groundwater Aquifer. Urban run-off is the likely source of bacteria in the CVSC. Discharges of waste from individual domestic septic tank leachfield systems, fertilizer application, and water recycling (i.e., use of reclaimed water to irrigate the Valley's famous golf courses and abundant resort landscaping), along with discharges of domestic waste to evaporation/percolation ponds are the likely sources of the nitrate contamination. While Regional Board staff intends to focus its activities on TMDL development for impaired surface waters, it also plans to concurrently address critical groundwater issues for the Coachella Valley as resources allow.

#### 2.1.2 Watershed Restoration Strategy for Pollution Control and TMDL Development and Implementation in the Priority Watershed

The Salton Sea, its major tributaries, the CVSC, the New River, Alamo River, and Imperial Valley Drains are listed on the CWA 303(d) list of impaired water bodies for this Region. The CWA requires the Regional Board to develop and implement pollution control limits, or Total Maximum Daily Loads (TMDLs), to improve water quality and support beneficial uses. Region 7 staff must develop and implement **15 TMDLs** for these pollutants for the five listed water bodies in the priority Salton Sea Transboundary Watershed. The TMDL process will include approval by USEPA and subsequent adoption of the TMDL with Implementation Plan by the Regional Board.

The majority of pollutants scheduled for TMDL development and implementation are NPS pollutants resulting from agricultural practices in the Imperial Valley. The Management Strategy for NPS TMDL development and implementation will be a targeted, phased approach. Staff has requested detailed workplans from the Farm Bureau and IID with schedules, milestones, and deliverables showing development and implementation of agricultural NPS pollution controls valley-wide. Working closely with the New River/Mexicali TAC and the silt TMDL TAC, Regional Board staff have developed the initial Problem Statement documents for the first targeted TMDLs; a bacteria TMDL for New River at the International Boundary, and a silt TMDL for the Alamo River in Imperial Valley. Staff will work with IID and other stakeholders to draft an implementation plan with the final TMDLs for adoption into the Basin Plan by the Regional Board.

## **2.2 Stakeholder Involvement**

One of the cornerstones of the Watershed Management approach is stakeholder involvement. This requires a commitment of active participation by Regional Board staff, usually for extended periods of time. Staff participation may facilitate accomplishment of water quality goals where direct regulatory authority and/or program resources are not available. For example, communities along the Colorado River representing three states and two Indian tribes have formed a Coalition to address the serious water pollution resulting from overuse of septic systems by resort parks along the River. The Regional Board may not have direct regulatory authority to remedy this problem, but staff can assist the stakeholder group in seeking legislative assistance or other mechanisms needed to address this serious threat to a major source of drinking water. In general, stakeholder groups in Region 7 are well organized and highly motivated to address the serious water quality concerns of the Region.

### **2.2.1 Stakeholder Groups in the Priority Watershed**

The following are the stakeholder groups within the priority watershed.

- **Silt TMDL TAC**—A new stakeholder group was created in 1998 by Regional Board staff to assist in development of silt TMDLs for Imperial Valley impaired water bodies. This Silt TMDL Technical Advisory Committee (TAC) consists of representatives from IID; federal, state, and local governments; the Farm Bureau; and other agricultural interests in Imperial Valley; in addition to representatives from the U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, Salton Sea Authority, and the Audubon Salton Sea Task Force. The TAC is focused on participating in the TMDL process with Regional board staff, and providing technical input on TMDL development and implementation.
- **Bacteria TMDL TAC**—The Binational TAC (US-Section) will serve as the TMDL stakeholder group to assist in development and implementation for the bacteria TMDL for New River at the International Boundary.
- **Drain Water Quality Improvement Program TAC**—Regional board staff continue to work with IID's DWQIP TAC in Silt Reduction BMP development and implementation, as well as public education and outreach. Staff also participates in IID's Water Conservation Advisory Group TAC.
- **Salton Sea Authority**—A major stakeholder group in the priority watershed is the Salton Sea Authority. This is a Joint Powers Authority created to address the severe environmental problems facing the Salton Sea. Currently, a Cal-Fed organizational process consisting of State, Federal, and Local agencies is being implemented to guide decision-makers in evaluation of options to restore the Sea and to provide a structure for the environmental review process. The US Bureau of Reclamation and the Salton Sea Authority have joint lead-agency role for the restoration project.
- **Citizens Congressional Task Force on the New River**—This group is coordinating a constructed wetlands project to treat polluted agricultural drainage waters prior to discharge into the New River. The Task Force includes private citizens and representatives from federal

(USBR, USGS, and USFWS), state (e.g., DFG and RWQCB), and local governments (e.g., Imperial County and IID); educational institutions (e.g., UC-Riverside and Imperial Valley College), and other non-profit organizations. Imperial County and the Citizens Task Force have partnered and been awarded funding for a Clean Water Act (CWA) 319(h) Grant for 1998 for this project. This project will also receive funding from USEPA. Regional Board staff is a member of the Task Force.

- Tribal Water Consortium—Five Indian tribes holding lands throughout the Coachella Valley have formed a Tribal Water Consortium to address groundwater quality issues on reservation lands. This Consortium has been awarded a CWA 319(h) Grant for 1998-2000.

#### 2.2.2 Stakeholder Groups Regionwide

Although the focus of staff effort and resources will be directed mainly toward activities in the priority Salton Sea Transboundary Watershed, water quality issues will be addressed on a priority basis as resources allow. It will be the approach of this office to focus intensely on its priority watershed while concurrently participating in stakeholder groups throughout the region addressing high priority water quality issues, such as protection of drinking water sources.

## 2.3 TMDL ACTIVITIES

The Regional Board's 1998 Clean Water Act 303(d) list has a total of 6 impaired surface water bodies, 5 of which are in the Salton Sea Transboundary Watershed: the Salton Sea, New River, Alamo, River, CVSC, and the Imperial Valley Drains. Included as part of the 303(d) list update was the required schedule for development of Total Maximum Daily Loads (TMDLs). Table 1 in the Appendices Section shows the 303(d) list and TMDL schedules. The USEPA now requires development of all TMDLs within 13 years. Region 7 must implement a total of 16 TMDLs. Of those 16 TMDLs, 15 TMDLs must be developed and implemented for the Salton Sea Transboundary Watershed. In general, these activities will be done in a targeted, phased approach for TMDL development and implementation and have five major components in common: (1) activity coordination and management through stakeholder groups; (2) monitoring and evaluation of data relevant to water quality to estimate the assimilative capacity of the water body; (3) evaluation of pollutant loading from all sources; (4) predictive analysis of pollutant; and (5) development and implementation of pollutant loading limits and targeted levels of pollutant loading reductions. Because of the uniqueness of the Salton Sea problems, the activities for TMDL development and implementation for all of the pollutants impairing the Salton Sea are discussed in Section 2.3.7. This section describes the activities and time schedules to develop these TMDLs.

### 2.3.1 TMDL Activities for 1998-99, 1999-00

Executive Officers from all Regional Boards have made commitments to USEPA to develop at least 2 TMDLs by April 2000. Region 7 has committed to development of a Silt TMDL for the Alamo River in Imperial Valley, and a Bacteria TMDL for New River at the International Boundary. The second commitment made for SFY 99-00 is for development of a Silt TMDL for the New River. The goal will be to present the Regional Board with complete TMDL Basin Plan Amendments (including implementation plans) for the Silt TMDL and the Bacteria TMDL by March 2000. The second commitment will be completion of a technical Silt TMDL within the SFY 99-00 for New River for approval by USEPA. Staff will then prepare the TMDL with implementation plan as a Basin Plan Amendment and present it to the Regional Board for consideration of adoption.

### 2.3.2 Silt TMDL for Alamo River

Silt TMDLs will be developed for the Alamo River in 1998-00, the New River in 1999-00, and the Imperial Valley Agricultural (ag) Drains in 2000-01. With the exception of bacteria and VOCs, the main source of the pollutants listed on the CWA 303(d) list for Region 7 is agricultural runoff in the Imperial Valley. Imperial Irrigation District (IID) owns and operates the drainage system for Imperial Valley. Regional Board staff will continue to work closely with IID to coordinate development of agricultural pollutant TMDLs with implementation efforts by IID and growers to control NPS pollution.

**New River, Alamo River, Imperial Valley Drains**—Agricultural runoff and subsurface drainage from Imperial Valley and Mexicali are the main sources of silt, nutrients, selenium, salts, and pesticides in the aforementioned water bodies. Among other water quality impacts, silt reduces the



ability of certain aquatic organisms to reproduce and causes unsightly conditions in the water bodies. Insoluble pesticides (i.e. DDT, DDE, and toxaphene) attached to silt contribute to chronic toxicity and impairment to fish-eating waterfowl. Some soluble pesticides are acutely toxic and have resulted in massive fish kills in the drains and pose a significant threat to other aquatic organisms and waterfowl. Toxicity studies on the Alamo River indicate the toxicity objective listed in the Regional Board Basin Plan is exceeded during fall and spring periods of pesticide applications.

As previously discussed, Regional Board staff plans to continue with its binational activities to address all issues related to New River pollution from Mexico. It also plans to continue working with IID through IID's Drain Water Quality Improvement Plan to address silt and pesticide pollution in Imperial Valley through implementation of BMPs. Presently, IID will be demonstrating the use of sedimentation basins to remove non-colloidal silts and insoluble pesticides. It is expected that IID will continue to provide monitoring data for its drainage system and demonstration projects. Regional Board staff will need additional resources to evaluate the monitoring data and effectiveness of the BMPs. Staff intends to continue working with IID through the Citizens Task Force for the New River on two wetland demonstration projects. IID is providing the land (approximately 80 acres), technical expertise, and operation and maintenance for the projects. The projects' objective is to treat polluted agricultural runoff before it is discharged into the New River and Salton Sea. The projects have been funded by the federal government and are expected to be operational by 1999. Regardless of whether the wetland projects materialize, staff plans to evaluate the existing available data and set interim TMDL target levels for silt and pesticide loading reduction (e.g., a 10% reduction in loads over 3 years). However, additional staff resources will be required to accomplish this objective. The following table outlines the silt TMDL activities Regional Board staff intends to implement.

<b>Activities for Silt TMDL Development in the Alamo River, New River, and Imperial Valley Agricultural Drains</b>	
1. Participate in Silt TMDL TAC and IID's DWQIP and Water Conservation TACs	
a. Coordinate and encourage self-determined implementation of silt reduction BMPs throughout the Imperial Valley.	
b. Assist in grant application and contract management for CWA 319(H) NPS pollution control BMP projects.	
c. Prepare task reports	
2. Binational TAC for Mexicali/New River Project	
a. Project management and support	
b. Evaluate and comment on binational technical reports and plans and specifications for wastewater infrastructure in Mexicali	
c. Binational monthly tours of New River in Mexicali	
d. Binational inspections of Mexicali wastewater infrastructure	
e. Binational inspections of construction activities	
f. Monitor silt in the New River at the Border	
3. Participate in Citizens Task Force meetings	
a. Establish Task Force TAC for silt in New River, Alamo River, and Imperial Valley Agricultural Drains	
b. Coordinate and participate in Task Force TAC meetings	



c. Prepare task progress reports
1. Estimate New River, Alamo River, and Imperial Valley Agricultural Drains Assimilative Capacity <ol style="list-style-type: none"> <li>Evaluate existing silt related data for New River, Alamo River, and Imperial Valley Agricultural Drains</li> <li>Prepare task progress reports</li> </ol>
2. Estimate total pollution from all sources <ol style="list-style-type: none"> <li>Evaluate existing silt related data from PS and NPS pollution in Imperial County</li> <li>Evaluate existing silt related data at the Border</li> <li>Prepare task progress reports</li> </ol>
3. Develop interim silt TMDL targets for New River, Alamo River, and Imperial Valley Agricultural Drains <ol style="list-style-type: none"> <li>Prepare task progress reports</li> </ol>
4. Allocate allowable pollution for New River, Alamo River, and Imperial Valley Agricultural Drains <ol style="list-style-type: none"> <li>Establish Waste Load Allocations for PS in Imperial County</li> <li>Establish Load Allocations (LA) for NPS in Imperial County</li> <li>Establish Load Allocations for International Boundary</li> <li>Establish Margin of Safety for TMDLs</li> <li>Develop TMDLs target level reductions—final TMDL target level</li> <li>Develop schedule for implementation</li> <li>Amend Basin Plan</li> <li>Prepare task progress reports</li> </ol>

### 2.3.3 Bacteria TMDLs

**New River**—Significantly high levels of bacteria (> 100,000 MPN/100 ml) are continuously measured in the New River at the International Boundary. The measured concentrations exceed the 60,000 MPN/100 ml water quality objective (WQO) established in the Basin Plan for the New River at the International Boundary. In September 1993, Governor Wilson issued a “*Proclamation of a State of Emergency*” for the New River. High bacteria levels in the New River are attributable to:

- (1) Discharges from Mexicali, Mexico that include discharges of raw sewage, discharges from septic tank haulers, and discharges of partially treated municipal wastes from Mexicali’s wastewater treatment lagoons;
- (2) Point sources of pollution under the direct regulatory jurisdiction of the Regional Board, including discharges of treated but undisinfected domestic wastes from publicly owned wastewater treatment plants (POTWs) with NPDES permits in the Imperial Valley; and
- (3) Nonpoint sources such as urban runoff from Valley communities and animal facilities, which contribute to the problem, but to a lesser degree.

Regarding bacteria pollution from Mexico, Regional Board staff plans to continue with its binational activities and make them a part of the overall strategy to address bacterial pollution from Mexico. The current Basin Plan WQO for bacteria is based on Minute Treaty Agreement No. 264, a U.S.-Mexico Treaty, which sets water quality standards for the New River. Mexico is

currently in violation of said Treaty. This notwithstanding, the Regional Board recognizes that the existing bacteria standard of Minute Treaty Agreement No. 264 are not adequate to ensure compliance with water quality objectives for the New River, even if there were no U.S. sources discharging wastes into the New River. Therefore, and as stated in the Basin Plan, it is the intent of Regional Board staff to pursue long-range quantitative water quality standards for the New River at the International Boundary beyond those contained in Minute Treaty Agreement No. 264. Such standards are anticipated to include further reduction of fecal coliform organisms.

For bacterial pollution from sources in the Imperial Valley, staff plans to closely work with the Citizens Congressional Task Force for the New River (hereafter "Task Force"), which is concerned with addressing overall pollution of the New River. However, this office will need additional resources to form and actively participate in the TAC for bacteria in the New River. As a first step to ensure the river's beneficial uses are protected, staff is currently revising all NPDES permits not currently containing disinfection requirements for Publicly Owned Treatment Works (POTWs) discharging into the New River. The revised permits will establish effluent bacteria/disinfection limits for each POTW. Staff will evaluate the effectiveness of the NPDES bacteria limits as POTW NPDES monitoring data becomes available.

All New River bacteria data at the International Boundary have already been entered into a database. Evaluation of the data is on-going as part of the binational effort. A preliminary analysis of all available data for the New River indicates that there may not be enough data to develop a first cut TMDL for bacteria. No bacteria monitoring data have been collected from the New River downstream of the City of Calexico since late 1993 for lack of funding. Data for the reach of the river between the City of Calexico WWTF outfall and the City of Westmorland must be collected and evaluated to establish current conditions. Moreover, it will also be necessary to develop and implement a monitoring program to evaluate the contribution of bacteria from NPS (e.g., runoff from confined animal facilities in Imperial Valley) for TMDL development. This proposed monitoring and evaluation is not currently funded, but is essential to assess the current WQO for bacteria in the New River and develop and implement the TMDL.

Based on the foregoing, the focus of the bacteria TMDL for New River will be on implementation of pollution control projects such as:

1. Disinfection of effluent from Mexicali I and II Wastewater Treatment Plants
2. Elimination of raw sewage discharges to New River
3. Disinfection requirements for all Imperial Valley POTWs and sewage dischargers

The following table outlines the activities Regional Board staff plans to implement to address bacteria in the New River.

<b>Activities/tasks for Bacteria in the New River<sup>1</sup></b>
<ol style="list-style-type: none"> <li>1. Participate in Binational TAC for Mexicali/New River Project               <ol style="list-style-type: none"> <li>a. Project management and support</li> <li>b. Evaluate and comment on binational technical reports and plans/specifications for wastewater infrastructure in Mexicali</li> </ol> </li> </ol>

<sup>1</sup> Presumes USEPA will fund the binational activities.

<ul style="list-style-type: none"> <li>c. Binational monthly tours of New River in Mexicali</li> <li>d. Binational inspections of Mexicali wastewater infrastructure</li> <li>e. Binational inspections of construction activities</li> <li>f. Monitor bacteria at the International Border</li> <li>g. Prepare task progress and inspection reports</li> </ul>
<ul style="list-style-type: none"> <li>2. Participate in Citizens Task Force meetings <ul style="list-style-type: none"> <li>a. Establish Task Force TAC for bacteria in New River</li> <li>b. Coordinate and participate in Task Force TAC meetings</li> <li>c. Conduct outreach, education, training</li> <li>d. Prepare task progress reports</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>3. Estimate New River Bacterial Pollution and Assimilative Capacity <ul style="list-style-type: none"> <li>a. Establish GIS for New River drainage area</li> <li>b. Evaluate existing bacteria and related data for New River</li> <li>c. Manage GIS<sup>2</sup></li> <li>d. Prepare task progress reports</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>4. Estimate Source Loadings <ul style="list-style-type: none"> <li>a. Evaluate bacteria from NPDES facilities</li> <li>b. Evaluate bacteria from NPS of pollution in Imperial County</li> <li>c. Evaluate bacteria from Mexicali</li> <li>d. Monitor/evaluate additional load data</li> <li>e. Prepare task progress reports</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>5. Develop bacteria model <ul style="list-style-type: none"> <li>a. Prepare task progress reports</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>6. Allocate Allowable Pollution for New River <ul style="list-style-type: none"> <li>a. Evaluate Existing Limits/Establish New Waste Load Allocations for PS in Imperial County</li> <li>b. Establish Load Allocations for NPS in Imperial County</li> <li>c. Establish Load Allocation for the International Boundary</li> <li>d. Establish Margin of Safety for Limits</li> <li>e. Develop schedule for implementation</li> <li>f. Amend Basin Plan</li> <li>g. Prepare task progress reports</li> </ul> </li> </ul>

**Coachella Stormwater Channel**—Relatively high levels of bacteria have been detected in the Coachella Valley Stormwater Channel (CVSC) at concentrations which exceed the 30-day mean of 200 MPN/100 ml water quality objectives (WQOs) set for bacteria in Basin Plan. Fecal coliform concentrations as high as 54,000 MPN/100 ml have been measured and pose a threat to human health. The source(s) of bacteria in the CVSC have not been fully identified, but the available data suggest that the bacteria may be associated with urban runoff<sup>3</sup> from the Coachella Valley.

While there are stakeholders concerned about water quality in the Coachella Valley (e.g., private citizens, consortium of Indian tribes, water districts, County, and wastewater agencies), they are not organized into a coherent group to coordinate watershed issues in the Coachella Valley.

<sup>2</sup> UC-Davis has developed a beta version of a FoxPro database to enter water quality for the New River. However, all New River data should be managed through the GIS database, which has capabilities to incorporate land use data.

<sup>3</sup> All NPDES permits for wastewater treatment facilities discharging domestic wastes into the CVSC already include effluent limits for bacteria.

Regional Board staff plans to form a stakeholders group for the Coachella Valley subwatershed to address and coordinate water pollution within the subwatershed. Staff has not been able to collect bacteria monitoring data from the CVSC since late 1993 because of lack of funding. Additional funding is necessary to collect bacteria data to characterize current bacteria levels in the CVSC, identify the source(s) of pollution, determine the assimilative capacity of the CVSC, organize and manage the data (preferably through a GIS database that includes land use data as needed). Then, a TMDL will be developed and implemented in phases. Implementation of TMDLs will require Basin Plan amendments. As additional data becomes available, it may be necessary to refine the TMDL, assess whether more stringent NPDES limits for point sources are necessary, evaluate land uses, and encourage new and existing BMPs to deal with urban runoff. This office is not currently funded to carry out these planned activities. The following table outlines the activities/tasks in more detail.

<b>Activities/Tasks for Bacteria in CVSC</b>
<ol style="list-style-type: none"> <li>1. Establish Stakeholder Group for Coachella Valley subwatershed               <ol style="list-style-type: none"> <li>a. Establish technical advisory committee (TAC) for CVSC</li> <li>b. Coordinate and participate in TAC meetings</li> <li>c. Conduct outreach, education, and training as necessary</li> <li>d. Prepare task progress reports</li> </ol> </li> </ol>
<ol style="list-style-type: none"> <li>2. Estimate CVSC Current Bacterial Pollution and Assimilative Capacity               <ol style="list-style-type: none"> <li>a. Establish GIS for CVSC drainage area</li> <li>b. Evaluate existing bacteria and related data for CVSC</li> <li>c. Develop monitoring program for CVSC to collect additional data</li> <li>d. Monitor CVSC for additional data as needed</li> <li>e. Manage GIS and monitoring program</li> <li>f. Assess additional data</li> <li>g. Prepare task progress reports</li> </ol> </li> </ol>
<ol style="list-style-type: none"> <li>3. Characterize Source Loadings               <ol style="list-style-type: none"> <li>a. Evaluate bacterial load from NPDES facilities</li> <li>b. Evaluate bacterial load from urban runoff</li> <li>c. Monitor for additional data as needed</li> <li>d. Assess additional data</li> <li>e. Prepare task progress reports</li> </ol> </li> </ol>
<ol style="list-style-type: none"> <li>4. Develop Bacteria Model               <ol style="list-style-type: none"> <li>a. Prepare task progress reports</li> </ol> </li> </ol>
<ol style="list-style-type: none"> <li>5. Allocate Allowable Pollution for CVSC               <ol style="list-style-type: none"> <li>a. Establish Waste Load Allocations for PS</li> <li>b. Establish Load Allocations for NPS</li> <li>c. Establish Margin of Safety</li> <li>d. Develop TMDL</li> <li>e. Develop schedule for implementation</li> <li>f. Amend Basin Plan</li> <li>g. Prepare task progress reports</li> </ol> </li> </ol>

#### 2.3.4 Volatile Organic Constituents (VOCs)

**New River**—Regional Board data indicate that the VOCs in the river originate from discharges of untreated and partially treated municipal and industrial wastes from Mexicali. Several of the VOCs detected (e.g., benzene, chloroform, 1,4-Dichlorobenzene) are suspected human carcinogens. Other VOCs detected include Toluene, Xylenes, and Ethylbenzene, which are typically associated with petroleum products, affect the nervous system, and cause odor nuisances.

While Regional Board staff can monitor and assess VOCs data and develop a TMDL for VOCs, enforcement of the limits ultimately becomes a binational issue over which the Regional Board has no direct control (see previous discussion for bacteria). In fact, as part of its overall watershed management strategy, staff plans to pursue long-term quantitative standards also for VOCs in the New River at the International Boundary because Treaty Minute Agreement No. 264 does not include any such standards. Similarly, a Basin Plan amendment may be in order as the current Basin Plan does not contain any numeric standards for VOCs, even though it contains narrative criteria that applies to VOCs. This amendment will require additional resources.

Also, and for completeness of the analysis, Regional Board staff will be reviewing existing VOC data from NPDES facilities in Imperial Valley to determine their VOC contribution. This activity can be accomplished with existing resources. Moreover, because the source of the problem seems to be Mexico, at this point it is not expected that a complex, stakeholders coordinated effort is needed to develop limits. With that in mind, staff intends to continue with its binational efforts to address VOC pollution—efforts that are contingent on funding from the USEPA.

<b>Activities for VOCs in the New River</b>	
1. Participate in Binational TAC for Mexicali/New River Project	
a. Project management and support	
b. Evaluate and comment on binational technical reports and plans and specifications for wastewater infrastructure in Mexicali	
c. Binational monthly tours of New River in Mexicali	
d. Binational inspections of Mexicali wastewater infrastructure	
e. Binational inspections of construction activities	
f. Monitor VOCs in the New River at the Border	
2. Estimate New River VOCs Assimilative Capacity	
a. Evaluate existing VOCs and related data for New River	
3. Estimate Source Loadings	
a. Evaluate existing VOCs and related data from PS and NPS of pollution in Imperial County	
b. Evaluate existing VOCs and related data at the Border	
c. Prepare task progress reports	
4. Develop VOCs model for New River	
a. Prepare task progress reports	
5. Allocate Allowable Pollution for New River	
a. Establish Waste Load Allocations for PS in Imperial County	
b. Establish Load Allocations for NPS in Imperial County	
c. Establish Load Allocations for International Boundary	

- d. Establish Margin of Safety for Limits
- e. Develop schedule for implementation
- f. Amend Basin Plan
- g. Prepare task progress reports

### 2.3.5 Nutrients

**New River**—Nutrients (nitrate and phosphate) in the New River are associated mainly with agricultural runoff from Imperial Valley and to sewage and agricultural runoff from the Mexicali Valley. NPDES facilities discharging treated domestic and industrial wastes into the New River in Imperial Valley also contribute nutrients, but to a lesser degree. These nutrients deplete oxygen levels in the New River and cause eutrophic conditions in the Salton Sea. Staff plans to deal with nutrients from Mexico through its binational activities. Regarding the nutrients from the U.S., Regional Board staff intends to monitor and evaluate the contribution from NPDES facilities, evaluate the contribution from agricultural runoff through IID's Drain Water Quality Improvement Plan, and work with the Citizen's Task Force on the wetland projects.

<b>Activities for Nutrients in the New River</b>	
1. Participate in Binational TAC for Mexicali/New River Project	<ul style="list-style-type: none"> <li>a. Project management and support</li> <li>b. Evaluate and comment on binational technical reports and plans/specifications for wastewater infrastructure in Mexicali</li> <li>c. Binational monthly tours of New River in Mexicali</li> <li>d. Binational inspections of Mexicali wastewater infrastructure</li> <li>e. Binational inspections of construction activities</li> <li>f. Monitor nutrients at the International Border</li> <li>g. Prepare task progress and inspection reports</li> </ul>
2. Participate in Citizens Task Force meetings	<ul style="list-style-type: none"> <li>a. Establish Task Force TAC for nutrients in New River</li> <li>b. Coordinate and participate in Task Force TAC meetings</li> <li>c. Conduct outreach, education, training</li> <li>d. Prepare task progress reports</li> </ul>
3. Estimate New River Assimilative Capacity	<ul style="list-style-type: none"> <li>a. Evaluate existing nutrient and related data for New River</li> <li>b. Prepare task progress reports</li> </ul>
4. Estimate total pollution from all sources	<ul style="list-style-type: none"> <li>a. Evaluate nutrient load from NPDES facilities</li> <li>b. Evaluate nutrient load from NPS of pollution in Imperial County</li> <li>c. Evaluate existing nutrient load from Mexicali</li> <li>d. Monitor/evaluate additional load data</li> <li>e. Prepare task progress reports</li> </ul>
5. Develop nutrient model	<ul style="list-style-type: none"> <li>a. Prepare task progress reports</li> </ul>
6. Allocate allowable pollution for New River	<ul style="list-style-type: none"> <li>a. Establish Waste Load Allocations for PS in Imperial County</li> <li>b. Establish Load Allocations (LA) for NPS in Imperial County</li> </ul>



- c. Establish Load Allocation for International Boundary
- d. Establish Margin of Safety for TMDL
- e. Develop TMDL
- f. Develop schedule for implementation
- g. Amend Basin Plan
- h. Prepare task progress reports

#### 2.3.6 Selenium

**Alamo River and Imperial Valley Drains**—Subsurface drainage from Imperial Valley is the main source of selenium in these bodies of water. Among other adverse impacts, elevated concentrations of Selenium are toxic to birds and have resulted in a health advisory regarding Salton Sea fish consumption. Staff plans to work with IID through its Drain Water Quality Improvement Plan and the Citizen's Task Force wetland projects to address selenium issues. It is expected that IID will continue to provide monitoring data for its drainage system and BMP demonstration projects. Additionally, IID is working on pilot projects with the USBR targeting selenium reduction in agricultural drain water. Regional Board staff plans to evaluate the existing available data and set interim TMDL target levels for selenium loading reduction. As stated previously, staff will need additional resources to evaluate the monitoring data, effectiveness of the BMPs, and develop the TMDL. For completeness of the assessment, staff will also review selenium data from the Mexicali Valley. The following table outlines the Selenium TMDL activities staff plans to implement.



<b>Activities for Selenium in the Alamo River and Imperial Valley Drains</b>	
1. Participate in Citizens Task Force meetings	<ul style="list-style-type: none"> <li>a. Establish Task Force TAC for Selenium in New River</li> <li>b. Coordinate and participate in Task Force TAC meetings</li> <li>c. Conduct outreach, education, training</li> <li>d. Prepare task progress reports</li> </ul>
2. Estimate Alamo River and Drains Assimilative Capacities	<ul style="list-style-type: none"> <li>a. Evaluate existing Selenium and related data for Alamo River and Drains</li> <li>b. Prepare task progress reports</li> </ul>
4. Estimate total pollution from all sources	<ul style="list-style-type: none"> <li>a. Evaluate Selenium load from NPS of pollution in Imperial County</li> <li>b. Evaluate existing Selenium load from Mexicali</li> <li>c. Monitor/evaluate additional load data</li> <li>d. Prepare task progress reports</li> </ul>
5. Develop Selenium model	<ul style="list-style-type: none"> <li>a. Prepare task progress reports</li> </ul>
6. Allocate allowable pollution for Alamo River and Drains	<ul style="list-style-type: none"> <li>a. Establish Load Allocations (LA) for NPS in Imperial County</li> <li>b. Establish Load Allocations for International Boundary</li> <li>c. Establish Margin of Safety for TMDL in Imperial County</li> <li>d. Develop TMDL</li> <li>e. Develop schedule for implementation</li> <li>f. Amend Basin Plan</li> <li>g. Prepare task progress reports</li> </ul>

### 2.3.7 Salton Sea TMDL Activities

Salts, Selenium, and nutrients impair the beneficial uses of the Salton Sea. Increased salinity is arguably the foremost problem of the Sea. Water quality monitoring data for the Salton Sea indicates that salinity concentrations are at levels detrimental to the fishery. This problem was recognized over 30 years ago and, as predicted back then, appears to be directly and indirectly responsible for many of the Sea's adverse conditions now. The salinity of ocean water is typically 35 ppt. The present salinity of the Sea is approaching 45 ppt. Should the current trend continue, it will certainly wipe out the fishery. It was forecast that when salinity reached 40 ppt, salinity would adversely affect the food chain of the Sea and ultimately lead to a collapse of the sportfishery. The food chain has been disrupted. Tilapia are now the dominant fish in the Sea, have overpopulated, and apparently become more subject to disease because of overcrowding. Thus, disruption of the food chain may be promoting increase in disease and further contributing to the catastrophic die-offs of waterfowl. Concurrently, a sharp Sea salinity increase above 40 ppt in 1992 coincides with the beginning of documented catastrophic bird die-offs. In 1992, over 150,000 Eared Grebes died; in 1996, over 14,000 pelicans, including 1,400 endangered Brown Pelicans, died; and in 1997, over 8,000 Cormorants died (the entire nesting colony on Mullet Island).

The Sea has long been regarded as a highly eutrophic waterbody. Nutrients (i.e., nitrates and phosphates) enter the Sea primarily via agricultural drainage conveying crop fertilizers from the Imperial Valley. Discharges of partially treated and untreated sewage from Mexicali contribute additional nutrients to the New River, particularly phosphate. On the one hand, nutrients have helped make the Sea one of California's most productive inland sportfisheries. On the other hand, eutrophic conditions can lead to unaesthetic algal blooms, oxygen depletion, fish kills, and other nuisance conditions (e.g., foul odors). Some scientists have suggested that the Sea's eutrophic condition greatly increases the potential outbreaks of disease. Water quality data for the two major Sea tributaries shows that nutrient input has remained relatively stable (the average nitrate and phosphate concentrations from 1980 to 1996 are 5.6 and 0.90 mg/l, respectively).

Although selenium has not created problems anywhere near the magnitude of those at the Kesterson Wildlife Refuge in Central California, it remains a concern because of a health advisory posted recommending limited consumption of Salton Sea fish and because of fears of wildlife biologists that increases could lead to bird mortality. Selenium is present in the Colorado River at about 2 ppb and concentrated to about 5 to 10 ppb in drainage water in Imperial Valley. Selenium apparently enters the food chain in the Sea in the New and Alamo River delta areas, with some of the element settling into the bottom muds. Selenium level in Salton Sea water in the middle of the Sea is relatively low at 1 ppb or even less. Selenium also concentrates in the bottom sediments and bioaccumulates.

The current conventional regulatory framework is unsuitable to address the problems facing the Salton Sea. The salinity problem is not resolvable from a strictly regulatory standpoint. In 1993, the Salton Sea Authority (SSA) was created as a Joint Powers Authority to address the problems of the Sea. The SSA is comprised of four member agencies, which have direct jurisdiction of the Sea. These agencies are Imperial County, Riverside County, IID, and Coachella Valley Water District. The work of this Authority along with public support helped encourage a group of US Congressmen to form the Salton Sea Congressional Task Force. The key members of this Task Force are Mary Bono, George Brown, Duncan Hunter, Ken Calvert, and Jerry Lewis. Legislation has been introduced in both houses of Congress to address Salton Sea problems, but has failed to pass. Both bills would provide approximately \$300 million toward the necessary research and environmental review process needed to design and construct a project to restore the ecosystem of the Sea. Legislation, which among other things, appropriated money to do a Salton Sea restoration feasibility study did pass in late 1998.

While a preferred project alternative to save the Sea has not been selected, through discussions with Interior Secretary Babbitt, a Federal-State organization of essential members and groups has been formed. First, there is a Management Committee consisting of four members; one from Interior Secretary Babbitt's office, one from the State of California, one from the SSA, and one from the Torres-Martinez Indian Tribe (the Torres-Martinez Reservation is partly submerged beneath the Salton Sea). Additionally, a Science Advisory Sub-committee with representatives from key agencies (e.g., State Board) and University groups has been established. These teams will coordinate targeted research toward the EIR/EIS document. The various options will be evaluated and environmental impacts identified in the public review process. The Science Advisory Committee has drafted a contract for the University of Redlands to compile a comprehensive database for the Sea and its tributaries. Additionally, UC-Davis is developing a dynamic model for the Sea's problems as part of a CWA 205(j) and Clean Lakes Grants programs.

In general, Regional Board staff plans to coordinate its TMDL activities for the Salton Sea through the Salton Sea Authority. However, it also intends to provide support/input to the Management Committee and Science Advisory Subcommittee and participate in their meetings as needed. Staff will also be reviewing the EIR/EIS document and the data compiled by the University of Redlands to develop and implement practical TMDLs for nutrients, salts, and Selenium. Clearly, the TMDL activities for nutrients in the New River and Selenium in the Alamo River and Imperial Valley Drains should be viewed as a component of the overall TMDL activities for the Sea. With that in mind, the following table details the TMDL activities for the Salton Sea.

<b>TMDL Activities for Salton Sea</b>	
1. Participate in SSA meetings	<ul style="list-style-type: none"> <li>a. Coordinate and participate in SSA/TAC meetings</li> <li>b. Conduct outreach, education, training</li> <li>c. Prepare task progress reports</li> </ul>
2. Provide input to Salton Sea Management and Science Committees	<ul style="list-style-type: none"> <li>a. Attend meetings as requested, provide monitoring data</li> <li>b. Review EIR/EIS</li> <li>c. Prepare task progress reports</li> </ul>
3. Estimate total pollution from all sources <sup>4</sup>	<ul style="list-style-type: none"> <li>a. Evaluate compiled data</li> <li>b. Evaluate pollutant loads from major Sea tributaries</li> <li>c. Prepare task progress reports</li> </ul>
4. Allocate allowable pollution for Salton Sea based on UC-Davis model	<ul style="list-style-type: none"> <li>a. Establish Waste Load Allocations for PS</li> <li>b. Establish Load Allocations (LA) for NPS</li> <li>c. Establish Margin of Safety for TMDL</li> <li>d. Develop TMDL</li> <li>e. Develop schedule for implementation</li> <li>f. Amend Basin Plan</li> <li>g. Prepare task progress reports</li> </ul>

<sup>4</sup> The Management Committee will likely contract out this task.

## 2.4 NPS Activities

### 2.4.1 Management Strategy for NPS Pollution Control

Agricultural pollutants causing impairments of beneficial uses include silt, pesticides, nutrients, bacteria, and salt. Run-off and subsurface drainage from irrigated agriculture in the Imperial and Mexicali Valleys are the source of these pollutants. NPS pollutants from agricultural practices represent a major source of water pollution in the region. Highest priority tasks for Region 7 staff include coordination with IID and the agricultural community in development and effective implementation of NPS controls to meet TMDL requirements for reduction of agricultural pollutants.

**Staff Efforts in 1998-99**—Extensive staff time is required to work cooperatively with stakeholders to implement self-determined BMPs and regulatory-encouraged BMPs to achieve TMDL limits and control NPS agricultural pollution. In 1998-99, staff participated in technical advisory committees and smaller working groups with IID addressing NPS pollution issues. Staff have provided outreach and education regarding the TMDL process, and specifically the time schedule and steps needed for implementation of NPS controls for agricultural pollutant TMDLs. Further, staff began work on the Silt TMDL for the Alamo River. The focus of staff efforts is toward coordinating regulatory requirements through local and State Natural Resource Conservation Service (NRCS) and Resource Conservation District (RCD) representatives. The Farm Bureau, State Farm Bureau Federation, and local RCD are working to develop a watershed plan for implementation of NPS pollution controls throughout the Imperial Valley. CWA 319(h) and 205(j) grant funding will be sought to assist in this effort, including funding for a coordinator position. This person will interface between key stakeholders such as IID, the Farm Bureau, the Regional Board, and

## Accomplishments

### January 1999

#### Convened TMDL Technical Advisory Committee

The TAC meets monthly to provide Regional Board staff with input on development and implementation of TMDLs.

### March & April 1999

#### TMDL Development and Implementations Workplans

### March & April 1999

#### Data Gap Monitoring for TMDL Development

Data gap monitoring for silt TMDLs in the New and Alamo Rivers, tailwater, and drain outlets.

### February & March 1999

#### Data Assessment

Data from all sources was evaluated for the Silt TMDL for the Alamo River Problem Statement.

### April 1999

#### Revised TMDL Schedule

### April & May 1999

#### Coordination with State & County Farm Bureau and State & Local NRCS Staff

### April 1999

#### Problem Statements

*Silt TMDL for the Alamo River*

*Bacteria TMDL for the New River*

### Ongoing

#### TAC Participation

Regional Board staff participates in the following stakeholder groups:

- TMDL TAC
- Salton Sea Authority;
- Salton Sea Science Subcommittee;
- Imperial Irrigation Drain Water Quality Improvement TAC;
- Imperial Irrigation District Water Conservation TAC;
- Bi-national TAC. ✕

growers to facilitate formation of cooperative groups willing to implement NPS control projects. The coordinator will also provide assistance to stakeholders in developing grant proposals for implementation projects.

**Staff activities for 1999-00 and 2000-2001**—The focus of NPS staff efforts will be geared toward development and implementation of silt TMDLs for Imperial Valley, with widespread implementation of NPS pollution controls throughout the Imperial Valley. As agricultural TMDLs are developed for Salton Sea, the New River, Alamo River, and Imperial Valley Drains, staff will continue to coordinate closely with IID and the agricultural community to draft implementation plans that will become part of TMDL Basin Plan Amendments. These Amendments are scheduled for presentation to the Regional Board for adoption in 2000 and 2001.

Staff will also continue to coordinate efforts closely with key stakeholders in Coachella and Imperial Valleys. IID, CVWD, Palo Verde Irrigation District, Bard Valley Irrigation District, Riverside County, and Imperial County have been invited to coordinate efforts and form a Resource and Conservation District. This will be a multi-county, multi-RCD working group tasked with addressing agricultural concerns throughout the Salton Sea Transboundary Watershed. The first step will be to develop a “master watershed plan” to identify areas of concern and develop a phased, targeted approach to address NPS pollution from agricultural activities. The second step will be implementation of on-the-ground BMP projects to control NPS pollution. Federal funding is available through the NRCS to hire a full-time coordinator to assist in achieving these goals and to facilitate development of grant proposals for specific projects. Staff will coordinate TMDL development and implementation with the efforts of this group.

Ground water contamination and non-point sources of pollution such as agricultural run-off are now considered major water quality threats for this Region and will increasingly be the target of regulatory efforts in the coming years. Activities planned for groundwater issues are discussed in Section 2.9.

#### 2.4.2 Existing NPS Water Quality Problems

Agricultural drainage water from the Imperial Valley flows north into the Salton Sea and contributes over 70% of the freshwater supply to the Sea. The largest source of surface water pollution in Region 7 is from agricultural activities in the Imperial Valley. About 500,000 acres of irrigated farmlands produce alfalfa, winter vegetables, and other crops. About one million acre-feet of runoff (including surface and subsurface drainage) is generated annually causing major beneficial use impairments in the Alamo and New Rivers and the Salton Sea. The major pollutants (in order of concern) are suspended silts with attached insoluble pesticides, fertilizers, soluble pesticides, selenium, and bacteria.

IID controls and operates the Valley's irrigation and drainage system. In 1994, Region 7 staff established the Drain Water Quality Improvement Plan for IID as a NPS Tier 2 regulatory-based encouragement program. This comprehensive Plan relies on Best Management Practices (BMPs) implemented through IID to reduce agricultural pollutants at the source. Quarterly monitoring reports are submitted by IID showing progress in pollutant reduction. The Plan also calls for testing of innovative methods of treating agricultural runoff.

### 2.4.3 Specific Activities For 1999-00

Tier 1 Activities—These activities are based on voluntary implementation of BMPs. Regional Board staff plans to implement the following Tier 1 activities for FY 1999-00.

1. Stakeholder Participation—Regional Board staff will be participating in the following stakeholder groups to provide technical assistance and regulatory support:
  - Silt TMDL Technical Advisory Committee
  - Binational Technical Advisory Committee on New River
  - Salton Sea Authority Technical Advisory Committee
  - Salton Sea Authority Board Meetings
  - Salton Sea Science Subcommittee Meetings
  - Citizens Congressional Task Force on the New River, which is working on constructed wetlands project to treat agricultural drain water.
  - Tribal Water Consortium of five Coachella Valley Tribes, which is addressing groundwater issues.
  - Imperial Irrigation District (IID) - Drain Water Quality Improvement Plan Stakeholder Group; this group will include representatives from IID's Irrigation Management and Water Conservation Advisory Board, Regional Board Staff, US Bureau of Reclamation, and the Natural Resources Conservation Service. The objective will be to coordinate water quality improvement targets (TMDLs) with IID's plans to conserve irrigation water on-farm.
2. Outreach/Education to solicit 319(h) and 205(j) grant proposals to address NPS pollution. NPS pollution control BMP implementation projects that will reduce agricultural runoff will be given the highest priority for funding. Regional Board staff has assisted Imperial County in obtaining a CWA 319(h) proposal for a constructed wetlands demonstration project to treat NPS polluted agricultural drain water before discharge into the New River and Salton Sea.
3. Oversight of CWA 319(h) Grants Awarded in 1998 for the following projects:
  - a. The educational outreach program from the University of California at Davis Agricultural Extension at Holtville to teach growers and irrigators BMPs for reduction of tailwater run-off. An irrigation symposium will be held, and a BMP manual produced;
  - b. Tribal Water Consortium GIS and Wetlands projects. Five Indian tribes with lands throughout the Coachella Valley groundwater aquifer watershed will monitor groundwater quality on tribal land and compile water quality data on a GIS database of reservation lands. Also, a constructed wetland cell will treat agricultural drain water near the Salton Sea.

Tier 2 Activities—These activities are regulatory-based encouragement for BMPs. Regional Board staff plans to implement the following Tier 2 activities for FY 1999-00.

As previously stated, the Drain Water Quality Improvement Plan was established with IID in 1994 as regulatory-based encouragement for NPS pollution control. IID has implemented pilot BMPs



for NPS pollution controls for agricultural pollutants and has implemented a monitoring in agreement with Regional Board staff. However, IID reported that its data are inconclusive as to whether the tested BMPs can be effectively implemented Valley wide. For 1999-00, Regional Board staff has requested IID to focus its efforts on specific pilot projects targeted at significant and measurable removal of silt, selenium, and nutrients. Monitoring will be focused on determining if these BMP projects are effective at pollutant reduction from agricultural drain water.

Tier 3 Activities—These activities are based on a full regulatory program with effluent limitations for NPS pollution. Staff does not have any planned activities under this tier at this time.

#### 2.4.4 Planned Activities for 1999-00 and 2000-01

Staff will continue to work closely with IID and other stakeholders on the Drain Water Quality Improvement Plan with IID TAC. The goal will be to continue efforts to develop and implement BMPs that will effectively reduce levels of NPS pollutants from agricultural practices throughout the Imperial Valley. This effort will coincide with TMDL development for the same target pollutants; silt, pesticides, nutrients, and selenium. With cooperation from the growers, IID plans to develop and implement a water conservation program including on-farm BMPs. These BMPs may also reduce tailwater run-off of targeted pollutants. The subsurface (tile water) flows will continue to be highly concentrated in salts and selenium. The objective of IID's water conservation efforts will be to transfer conserved water out of the District. Currently over one million acre-feet/year of agricultural drain water flows into the Salton Sea. This is virtually all of the freshwater inflow to the Sea. Regional Board staff have serious concerns regarding potential adverse impacts to beneficial uses of the agricultural drains, New and Alamo Rivers, and the Salton Sea if flows are drastically reduced.

Additionally, Regional Board staff plans to continue working with the funded 319(h) projects for the Coachella Valley Groundwater (Tribal Water Consortium), UC-Davis educational program on BMPs for irrigation, and the constructed wetlands project with Imperial County and the Citizens Congressional Task Force on the New River. Further, Regional Board staff will solicit 319(h) proposals for appropriate projects in the priority watershed.



## 2.5 STATUS OF TMDL DEVELOPMENT AND NPS POLLUTION CONTROL ACTIVITIES

### 2.5.1 WMI Commitments for SFY 98-99

#### **104/106 (Grant Amount: \$120,000)**

1. Draft problem statements for Silt TMDL for the Alamo River and Bacteria TMDL for the New River;
2. Public participation and formation of Technical Advisory Committees;
3. Evaluation and assessment of water quality data from all sources;
4. Determination of assimilative capacity of waterbodies for target pollutants;
5. Determination of load allocations;
6. Establishment of TMDL for target pollutants;
7. Development of implementation plan with stakeholder input.

#### **CWA 319(h) (Grant Amount: \$94,799)**

1. IID Drain Water Quality Improvement Plan;
2. Grant Management for Constructed Wetlands Grant and UC Cooperative Extension Irrigation Education Grant;
3. Participation in Salton Sea Restoration Efforts;
4. Grant Management for Tribal Consortium.

#### **Challenges**

- Hiring and training of new staff.
- Initial meetings of TMDL TAC spent educating participants on CWA, 303(d), beneficial uses, severity of impairments.
- The initial schedule set for TMDL deliverables was overly ambitious. Initial data synthesis, stakeholder outreach, and problem assessment efforts took a lot of time. The schedule has been revised, with targeted date for a Board hearing in May 2000 to consider adoption of TMDLs.

#### **Highlights SFY 98-99**

Progress has been made from the planning stage of TMDL development to communicating strategy to the key stakeholders.

Developing a dialogue with Imperial Irrigation District, the County and State Farm Bureau Federation, the County, and the Farming Community regarding the need for water quality improvement.

Education regarding the TMDL Process.

Initiation of on-the-ground, restoration focused BMP projects.✳

#### **New River SFY 98-99**

Completion of Problem Statement for Bacteria TMDL for the New River.

Installation and configuration of continuous sampler at the International Boundary.

Strategy and Schedule for implementation of Bacteria TMDL, coordinated with the Binational committee (EPA lead).✳

## **Unfunded Needs:**

- Ambient monitoring program for water body assessment and TMDL development
- Groundwater investigation for nitrate impairment of drinking water aquifer in the Coachella Valley.

### 2.5.2 SFY 99-00 Commitments

#### **Carry-over 104/106 Money**

1. Completion of Technical TMDL and Implementation Plan for Silt TMDL for the Alamo River.
2. Board Hearing on Silt TMDL.
3. Completion of Technical TMDL and Implementation Plan for Bacteria TMDL for the New River.
4. Board Hearing on Bacteria TMDL.

#### **TMDL Development (Grant Amount: \$125,000)**

1. Development of a Technical TMDL for Silt in the New River
2. Water quality and sediment monitoring for TMDL development
- 3.

#### **NPS Implementation (Grant Amount: \$197,730)**

1. Tracking and Assessment of BMP Implementation
2. Public Education and Outreach in Cooperation with the Imperial Irrigation District
3. Water Quality Monitoring for Assessment of Priority TMDL Implementation
4. Irrigation Education Project (UC Extension) Contract Management
5. Coachella Valley Association of Tribes Groundwater Project Contract Management

## **2.6 Monitoring and Assessment**

Monitoring is a key component of implementation of the WMI. Monitoring should provide information for:

- Identifying pollutants and sources
- Assessment of water quality
- Targeting priority waterbodies for actions
- Evaluating the effectiveness of actions
- Developing models to support TMDL development

Currently, and excepting for the New River at the International Boundary, Region 7 is virtually unfunded for monitoring activities that will be required for water quality assessment and TMDL development. When additional funding is obtained, staff will perform priority data gap monitoring and new monitoring as needed for assessment and TMDL development. Monitoring activities will be focused on 303(d) listed water bodies. Trend monitoring will be added as resources become available.

Assessment is the process of determining levels of water quality and ecosystem impairment and identifying sources and causes of this impairment. Typically, assessment involves comparing monitoring data with state water quality standards to determine whether each water body's designated beneficial uses are being achieved.

Since 1989 the State Board and nine Regional Boards have maintained a "water quality assessment" database with information on water quality conditions and problems for many of the surface and ground waters of the state. The database has been updated every two years. In 1996 California changed from its old database Water Quality Assessment software to the USEPA Waterbody System (WBS) software. The change was necessary in order to provide consistency with Assessment and Reporting by other states. Results and updates of Regional Board assessments are used to compile the biennial reports to the USEPA on statewide water quality required by Section 305(b) of the Clean Water Act. The WBS FoxPro database provides a convenient means for storing assessment information organized around water quality resource units call waterbodies. Essentially, a waterbody will be assigned to rivers, lakes, estuaries, coastlines, or other water features. In June 1998 the WBS data will be integrated into GIS WBS. Regional Board staff will focus significant resources into assessment and data management activities over the next two years as we begin development of 15 TMDLs for our priority watershed.

## **2.7 NPDES**

The NPDES program is a critical component of the WMI at Region 7. Evaluating existing and establishing new waste load allocations in NPDES permits for point sources will be essential for developing and implementing TMDLs in the priority watershed. This Section describes, in order of priority, Regional Board staff activities for the NPDES program. The activities are detailed in Part Nos. 1 through 5 of Appendix A.

### **2.7.1 New NPDES Permits**

Prompt and timely review of all new NPDES permit applications for completeness and issuance of new permits when an application is deemed complete are the Regional Board's highest priority under the NPDES program. Currently, there is no backlog of new NPDES permit applications. Staff intends to continue processing all new NPDES applications in a timely manner.

### **2.7.2 NPDES Permit Renewal/Reissuance**

There are 41 active NPDES permits in Region 7. Part Nos. 1 through 3 of Appendix A contains a list of the existing active NPDES permits. The breakdown of the permits is as follows: there are 12 major, 23 minor, 4 General (with a total of 17 enrollees), and 2 Individual stormwater NPDES permits. All NPDES permits in Region 7 are on a five-year renewal/update schedule, and the Regional Board maintains a "zero backlog" of expired major NPDES permits. Early in 1998, however, the Regional Board administratively extended 2 of the 4 minor General NPDES permits because they expired during FY 1997-98 prior to renewal: the General NPDES permit for discharge of hydrostatic test water and the General NPDES permit for discharge of treated groundwater from cleanup projects. The Regional Board renewed the permit for discharge of hydrostatic test water during its May 1998 regularly scheduled monthly meeting and considered renewal of the other General permit during its June 1998 meeting, which brings the permit renewal backlog to "zero." For FY 1998-99, 5 major and 4 minor NPDES permits are scheduled for renewal. Staff plans to renew these permits in a timely manner and continue maintaining a "zero backlog" of permit renewal. Efforts are underway to more equitably balance the permit update workload from year to year.

### **2.7.3 Compliance Inspections**

All major and minor NPDES permittees in Region 7 are inspected at least annually. Should an NPDES facility be out of compliance, the facility is scheduled for more than 1 inspection per year (typically 2 to 3/year) until the problem is resolved. Staff desires to increase its current level of inspections for both major and minor NPDES dischargers, but will require additional resources to do so. Appendix A contains a list of the number and type (level "A" vs. "B") of inspections scheduled for major NPDES dischargers.

### **2.7.4 Pretreatment Activities**

The City of Banning and the Valley Sanitary District (VSD) both have active Pretreatment Programs. State Board personnel, Regional Board staff, and the wastewater districts conduct joint inspections of facilities classified as Significant Industrial Users in 40 CFR 403. Program Review is performed jointly with the State Board. A Pretreatment Workshop was conducted in March 1999.

## **2.8 Watershed Management**

The Watershed management effort for Region 7 will be coordinated through the Basin Planning Unit. The Watershed Coordinator receives direction from management regarding water quality priorities and regional policies to address them. The Coordinator attends stakeholder meetings throughout the region to facilitate water quality improvement, regardless of the Regional Boards direct regulatory authority or availability of resources. The Coordinator prepares reports detailing water quality priorities and assist in budget planning for the region. The Coordinator participates in the WMI Workgroup to represent the region. All Regional Board staff assists the Coordinator in annual updates of the WMI Chapter for Region 7.

### **2.8.1 Groundwater**

The main groundwater problem in the Salton Sea Transboundary Watershed is nitrate pollution in the Coachella Valley Groundwater Aquifer, which is the sole source of drinking water supply for virtually all of Coachella Valley. The Coachella Valley includes the Palm Springs-Cathedral City area. The nitrate impacts can be reasonably attributable to discharges of wastewater from the high density of septic systems in parts of Cathedral City, water recycling onto golf courses, and discharges of wastes to evaporation/percolation ponds. Another suspected source is the widespread application of fertilizers onto golf courses (over 100 currently in Coachella Valley), as well as fertilizer application on landscaped areas of resorts and country clubs throughout the valley.

The extent of the nitrate impacts needs to be fully characterized, but several municipal wells from the Desert Water Agency (DWA) in Palm Springs are already in restricted use because the water in those wells shows nitrate concentrations greater than 40 mg/l, which exceed the State Maximum Contaminant Level (MCL) of 10 mg/l for nitrate (as Nitrogen) in drinking water. Part of a solution to this problem is the complete elimination of all current discharges of wastes from the existing high-density septic tanks in this area and limit septic tank density for future developments. Many of the existing septic systems precede current state law, regulations, and acceptable engineering standards.

Regional Board staff plans to draft an amendment to the Basin Plan to restrict septic system density for new developments. Desert Water Agency has already borne a significant financial burden in eliminating septic tank discharges by hooking up those septic tanks to the sewage collection system for the Wastewater Treatment Facility of the City of Palm Springs. However, neither Cathedral City nor Desert Water Agency has the additional resources necessary to build the infrastructure urgently required to provide sewage services to all city residents. Without the infrastructure, the elimination of septic systems is deemed impractical, even with the adoption of a ban, which would simply be ignored lacking other alternatives.

Regional Board staff intends to develop a nitrate pollution control strategy, which includes a sound groundwater monitoring program and evaluation of current reclamation/disposal practices by Coachella Valley Water District and the City of Palm Springs. Revision of waste discharge requirements may be in order to incorporate nitrate limits and require water recycling at agronomic rates. Additional resources will be required to fund these priority activities. DWR has expressed



willingness to contract for groundwater studies at a 50% match share. Regional Board staff will endeavor to obtain sufficient resources as a high priority activity.

## 2.8.2 Basin Planning and Standards

The Regional Board adopted the current Basin Plan on November 17, 1993. The State Board and the California Office of Administrative Law approved the Basin Plan on February 17, and August 3, 1994, respectively. Section 303 of the Federal Clean Water Act (CWA) requires that the State hold public hearings for the purpose of reviewing applicable water quality standards (WQS) at least every three years, and as appropriate, modifying and adopting standards. Section 130 of Title 40 of the Code of Federal Regulations (CFR) also prescribes this requirement. Further, Section 13240 of the California Water Code (CWC) requires the State to formulate regional Water Quality Control Plans (Basin Plans) and periodically update the plans. WQS correspond to the beneficial uses and water quality objectives (WQOs) contained in Basin Plans. While a major part of the review consists of identifying potential water quality problems, an important part of the review is the reaffirmation of those portions of the plan where no potential problems are identified. However, the review does not necessarily mean that any major revision of the Basin Plan will be made.

The Regional Board is conducting its Triennial Review of the Basin Plan. By a Public Notice dated October 26, 1998, the Regional Board notified potentially affected public and private entities of its intent to conduct the Triennial Review. The Public Notice also transmitted a preliminary list of potential water quality issues identified by Regional Board staff for review. After due public notice, the Regional Board conducted a Triennial Review Public Workshop on March 11, 1999. Subsequently, by a Public Notice dated April 26, 1999, the Regional Board notified potentially affected public and private entities of the release of the 1999 Draft Triennial Review list and draft 1999 Surface Water Survey, and of the Regional Board's intent to consider adoption of the 1999 Triennial Review List. The Public Notice also transmitted a the 1999 Draft Triennial Review List containing potential water quality issues identified by Regional Board staff and members of the public for review. Since then, and pursuant to comments submitted by interested parties on the issue, the preliminary list proposed by staff and staff resources needed to complete the listed activities have been refined. The current proposed draft list of issues for review, along with the staff basis for the identified issues, and resources needed for the activities follows:

- *Review of Beneficial Use Designations for Surface Waters*—Staff proposes to prepare Basin Plan Amendments as needed to reflect results of the “1999 Surface Water Survey: Salton Sea Watershed, Imperial Valley Waterbodies”, which is part of the reaffirmation requirements for current WQS. Staff has a draft report on the Survey. It is estimated that the amendment can be completed with 0.2 PYs of existing staff resources.
- *Salton Sea Issues*--Staff proposes to review pertinent issues pertaining to the Salton Sea within the broader framework of the Salton Sea Restoration Project and revise the Basin Plan accordingly. It is estimated that this activity can be completed with 0.2 PYs of existing staff resources.
- *Correction of Errors and Inclusion of Referenced Policies*--Staff propose to draft a Basin Plan Amendment that corrects errors in the 1994 updated Basin Plan and includes copies of the

policies that are referenced in Section 5 of the 1994 updated Basin Plan. It is estimated that the amendment can be completed with 0.1 to 0.2 PYs of existing staff resources.

- *Beneficial Use Designation of Aquifers*--The beneficial uses of groundwater for this region are currently based on hydrologic units. Staff proposes that available groundwater data should be reviewed and recommendations made to identify the beneficial uses of individual groundwater aquifers within the various hydrologic units. It is estimated that the Regional Board will need about 0.7 PYs of additional resources to complete this activity.
- *Water Quality Objectives for Nitrates and Total Dissolved Solids (TDS)*--Groundwater beneath multiple areas including but not limited to Pinyon, Cathedral City, and Desert Hot Springs is showing significant increases in total dissolved solids and nitrates. Staff proposes that the water quality objectives for nitrates and TDS for groundwater be reviewed to determine whether they are adequate to protect groundwater quality. It is estimated that the Regional Board will need at least 1.0 PYs of additional resources to complete this activity.
- *Guidelines for Sewage Disposal from Land Developments*--These guidelines were developed in 1979 and do not include consideration for population density, distance to underground utilities or potential receptors. Effluent from septic tank/leachline systems has been estimated to contain up to 70 mg/l of nitrogen (as nitrate), which poses a significant threat to groundwater quality. Staff proposes that the guidelines be reviewed/updated accordingly and incorporated into the Basin Plan via an amendment. It is estimated that the Regional Board will need at least 0.5 PYs of additional resources to complete this activity.
- *Water Recycling Policy*--California is being asked to live within its means regarding its allocation of Colorado River water (4.4 Plan). Wastewater disposal to surface waters and through evaporation/percolation should not be considered a permanent disposal solution when the potential exists to recycle the water. Staff believes that a policy encouraging recycling and ensuring that every application for a permit to discharge waste/pollutants evaluates recycling the water needs to be developed. Staff proposes to develop the policy and incorporate it into the Basin Plan via an amendment. It is estimated that this activity can be completed with 0.1 PYs of existing staff resources.
- *Border Pollution Issues*--Staff proposes to review pertinent issues and WQOs for the New River at the International Boundary. It is estimated that this activity can be completed with 0.4 PYs of existing staff resources.

The Triennial Review is scheduled for completion in June 1999.

### 3.0 *Lucerne Valley, Desert Hot Springs, Lower Colorado River*

Sources of drinking water are a high priority throughout the region for water quality protection and pollution control. The Colorado River supplies drinking water to millions of Southern Californians. In this desert region, groundwater basins of high quality are a precious commodity and must be given the highest protection. As this region grows in population, water quality impacts are occurring. Three water quality issues of significant importance in Region 7 are: an areal nitrate plume in the upper desert groundwater basin of Lucerne Valley; an areal nitrate plume in the Desert Hot Springs groundwater basin; and bacterial pollution of the Lower Colorado River.

Disposal of domestic wastewater through evaporation/percolation ponds by the Big Bear Area Regional Wastewater Agency (BBARWA), agricultural practices, septic systems are the suspected sources of the nitrate problem in the Lucerne Valley. The full extent of the plume has not been determined, but it spreads several miles and threatens over 15 private supply wells. Regional Board staff lacks the funds to develop and implement a comprehensive groundwater monitoring program to determine the extent of pollution. However, it intends to continue working with the BBARWA to address the overall nitrate problem in Lucerne Valley.

The suspected cause of the nitrate problem in Desert Hot Springs is high-density septic tank/leachfield systems. Several domestic wells in Desert Hot Springs show nitrate at concentrations already exceeding the State MCL for nitrate, but the extent of this plume has not been determined either. Regional Board staff lacks the resources to develop a comprehensive groundwater monitoring program to do so. However, as resources allow, it intends to assist stakeholders (e.g., Mission Springs Water District) in Desert Hot Springs who are seeking legislative changes that address the problem (e.g., money for infrastructure).

Similarly, the cause of bacterial problems in the Lower Colorado River is overuse of septic systems by resort parks along the River. Communities along the Colorado River representing three states and two Indian tribes have formed a Coalition to address the problem. The Regional Board may not have direct regulatory authority on Indian land to remedy this problem, but will assist this stakeholder group by providing technical assistance and input on regulatory concerns as a solution is developed.

### **3.1 *Palo Verde Valley***

The Palo Verde Valley is located in the Lower Colorado River Watershed (for purposes of this Watershed Planning Chapter). The valley is predominately agricultural. The Palo Verde Outfall Drain is listed on the 1998 Clean Water Act 303(d) list of impaired water bodies for this region. A TMDL for bacteria will be developed for this water body as resources become available. Grant funding is currently being sought from USEPA for a water quality study in this area and TMDL development. Regional Board staff will also endeavor to form a stakeholders group in the valley to address water quality concerns regarding possible pollution from agricultural run-off, status of on-farm BMPs, and over-use of septic systems (possibly the source of bacteria in the Palo Verde Outfall Drain).

### **3.2 Leaking Underground Storage Tanks (USTs) Regionwide**

UST leaks contribute significantly to water quality problems within the Region. The two areas impacted most within Region 7 are the Coachella Valley (located within the priority watershed) and the City of Blythe. In both areas the underlying soil type is porous, thus allowing a significant amount of the pollutants to reach groundwater. In addition, the gasoline oxygenate MTBE (methyl tertiary-butyl ether) has become a major problem. MTBE leaks have caused water districts within the Coachella Valley Groundwater Basin to temporarily shut down, and even abandon drinking water wells. This is of serious concern, as the groundwater basin is the sole source of drinking water for much of the Coachella Valley.

Because of its location, the City of Blythe has been and still is a fueling station for traffic to and from Los Angeles and Phoenix. As a result, the City of Blythe covers a relatively small area with a large number of UST releases. Most of these contaminant plumes are commingled or in close proximity to one another, rendering independent clean up nearly impossible. To expedite and streamline cleanup of these plumes, the Regional Board's Executive Officer and Blythe's City Manager entered into a Memorandum of Understanding that allowed Blythe to coordinate its cleanup effort. This approach has become a model for commingled plumes throughout the State and consequently inspired the Legislature to enact commingled plume legislation (SB 562).

# APPENDICES

**TABLE 1**  
**Regional Water Quality Control Board**  
**Colorado River Basin Region**  
**Regional Board 303(d) List and Timeline for Development of Total Maximum Daily Loads (TMDLs)<sup>1</sup>**

Waterbody	Hydrologic Unit #	Size Affected	Problem Description	Specific Pollutants	Probable Source	TMDL Priority	Target Dates
<b>New River</b>	723.10	60 miles	Public health hazard, objectives violated, fish kills	Pesticides, silt, bacteria, nutrients, VOCs	Agricultural return flows and Mexico	high	<i>Silt</i> : Start 1998, complete 2002 <i>Bacteria</i> : Start 1998, complete 2005 <sup>2</sup> <i>Nutrients</i> : Start 2002, complete 2010 <i>Pesticides</i> : Start 2002, complete 2013 <i>VOCs</i> : Start 2007, complete 2013
<b>Alamo River</b>	723.10	52 miles	Elevated fish tissue levels (pesticides and selenium), toxic bioassay results (pesticides), recreational impacts	Pesticides, selenium, silt	Agricultural return flows <sup>3</sup>	high	<i>Silt</i> : Start 1998, complete 2000 <i>Selenium</i> : Start 2000, complete 2010 <i>Pesticide</i> : Start 2002, complete 2011
<b>Imperial Valley Drains</b>	723.10	1,305 miles	Elevated fish tissue levels (pesticides and selenium), toxic bioassay results (pesticides), recreational impacts	Pesticides, selenium, silt	Agricultural return flows <sup>3</sup>	high	<i>Silt</i> : Start 1998, complete 2000 <i>Selenium</i> : Start 2000, complete 2010 <i>Pesticide</i> : Start 2005, complete 2011
<b>Salton Sea</b>	728.00	220,000 acres	Salinity objectives violated, elevated fish tissue levels (selenium), recreational impacts	Selenium, salt, nutrients	Agricultural return flows <sup>3</sup>	medium	<i>Salt</i> : Start 1998, complete 2001 <i>Selenium</i> : Start 2002, complete 2007 <i>Nutrients</i> : Start 2002, complete 2010
<b>Palo Verde Outfall Drain</b>	715.40	16 miles	Bacteria objective violated, threat of toxic bioassay results, threat of sedimentation	Bacteria	Unknown	medium	<i>Bacteria</i> : Start 2005, complete 2011
<b>Coachella Valley Stormwater</b>	719.47	20 miles	Bacteria objective violated, threat of toxic bioassay results	Bacteria	Unknown	low	<i>Bacteria</i> : Start 2004, complete 2009

<sup>1</sup> This is not a commitment to complete work. The commitments are made in fund source specific workplans.

<sup>2</sup> Regional Board proposes to establish TMDL in cooperation with US EPA/Mexico.

<sup>3</sup> Selenium originates from upper portion of the Colorado River and is delivered to the Imperial Valley via irrigation water.



**TABLE 1**  
**Regional Water Quality Control Board**  
**Colorado River Basin Region**

**Channel**

**Table 2. Detailed Schedule of TMDL Activities (next five years)**

<b>Waterbody name/ reach</b>		Salton Sea					
<b>Watershed name</b>		Salton Sea					
<b>Hydrologic unit</b>		# 728.00		#		#	
<b>Stressor</b>		Selenium		Salt		Nutrients	
<b>Activity dates</b>		<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>
<b>Stakeholder (SH) participation</b>	<b>RB lead</b>	<b>2000</b>	<b>2007</b>	<b>1998</b>	<b>2001</b>	<b>2002</b>	<b>2010</b>
	<b>SH lead</b>						
<b>Monitoring</b>	<b>RB lead</b>	<b>2000</b>	<b>2003</b>	<b>1998</b>	<b>1999</b>	<b>2002</b>	<b>2005</b>
	<b>SH lead</b>						
<b>Assessment</b>	<b>RB lead</b>	<b>2003</b>	<b>2006</b>	<b>1999</b>	<b>2000</b>	<b>2005</b>	<b>2008</b>
	<b>SH lead</b>						
<b>TMDL Development</b>	<b>RB lead</b>	<b>2006</b>	<b>2007</b>	<b>2000</b>	<b>2001</b>	<b>2008</b>	<b>2010</b>
	<b>SH lead</b>						
<b>Implementation Plan</b>	<b>RB lead</b>	<b>2007</b>	<b>2008</b>	<b>2001</b>	<b>2002</b>	<b>2010</b>	<b>2011</b>
	<b>SH lead</b>						
<b>Basin Plan Amend</b>	<b>RB lead</b>	<b>2007</b>	<b>2008</b>	<b>2001</b>	<b>2002</b>	<b>2010</b>	<b>2011</b>

**Table 2. Detailed Schedule of TMDL Activities (next five years)**

<b>Waterbody name/ reach</b>		IV Drains					
<b>Watershed name</b>		Salton Sea IV					
<b>Hydrologic unit</b>		# 723.10		#		#	
<b>Stressor</b>		<b>Pesticides</b>		<b>Selenium</b>		<b>Silt</b>	
<b>Activity dates</b>		<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>
<b>Stakeholder (SH) participation</b>	<b>RB lead</b>	<b>2005</b>	<b>2011</b>	<b>2000</b>	<b>2010</b>	<b>2000</b>	<b>2010</b>
	<b>SH lead</b>						
<b>Monitoring</b>	<b>RB lead</b>	<b>2005</b>	<b>2007</b>	<b>2000</b>	<b>2004</b>	<b>2000</b>	<b>2004</b>
	<b>SH lead</b>						
<b>Assessment</b>	<b>RB lead</b>	<b>2007</b>	<b>2009</b>	<b>2004</b>	<b>2007</b>	<b>2004</b>	<b>2007</b>
	<b>SH lead</b>						
<b>TMDL Development</b>	<b>RB lead</b>	<b>2009</b>	<b>2011</b>	<b>2007</b>	<b>2010</b>	<b>2007</b>	<b>2010</b>
	<b>SH lead</b>						
<b>Implementation Plan</b>	<b>RB lead</b>	<b>2011</b>	<b>2012</b>	<b>2010</b>	<b>2011</b>	<b>2010</b>	<b>2011</b>
	<b>SH lead</b>						
<b>Basin Plan Amend</b>	<b>RB lead</b>	<b>2011</b>	<b>2012</b>	<b>2010</b>	<b>2011</b>	<b>2010</b>	<b>2011</b>

**Table 2. Detailed Schedule of TMDL Activities (next five years)**

<b>Waterbody name/ reach</b>		Alamo					
<b>Watershed name</b>		Salton Sea IV					
<b>Hydrologic unit</b>		# 723.10		#		#	
<b>Stressor</b>		<b>Pesticides</b>		<b>Selenium</b>			
<b>Activity dates</b>		<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>
<b>Stakeholder (SH) participation</b>	<b>RB lead</b>	<b>2002</b>	<b>2011</b>	<b>2000</b>	<b>2010</b>	<b>1998</b>	<b>2000</b>
	<b>SH lead</b>						
<b>Monitoring</b>	<b>RB lead</b>	<b>2002</b>	<b>2004</b>	<b>2000</b>	<b>2003</b>	<b>1998</b>	<b>1999</b>
	<b>SH lead</b>						
<b>Assessment</b>	<b>RB lead</b>	<b>2004</b>	<b>2008</b>	<b>2003</b>	<b>2006</b>	<b>1998</b>	<b>1999</b>
	<b>SH lead</b>						
<b>TMDL Development</b>	<b>RB lead</b>	<b>2008</b>	<b>2011</b>	<b>2004</b>	<b>2010</b>	<b>1999</b>	<b>2000</b>
	<b>SH lead</b>						
<b>Implementation Plan</b>	<b>RB lead</b>	<b>2011</b>	<b>2012</b>	<b>2010</b>	<b>2011</b>	<b>2000</b>	<b>2001</b>
	<b>SH lead</b>						
<b>Basin Plan Amend</b>	<b>RB lead</b>	<b>2011</b>	<b>2012</b>	<b>2010</b>	<b>2011</b>	<b>2000</b>	<b>2001</b>

**Table 2. Detailed Schedule of TMDL Activities (next five years)**

<b>Waterbody name/ reach</b>		CVSC					
<b>Watershed name</b>		Salton Sea					
<b>Hydrologic unit</b>		# 719.47		#		#	
<b>Stressor</b>		<b>Bacterial</b>					
<b>Activity dates</b>		<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>
<b>Stakeholder (SH) participation</b>	<b>RB lead</b>	<b>2004</b>	<b>2009</b>				
	<b>SH lead</b>						
<b>Monitoring</b>	<b>RB lead</b>	<b>2004</b>	<b>2006</b>				
	<b>SH lead</b>						
<b>Assessment</b>	<b>RB lead</b>	<b>2006</b>	<b>2008</b>				
	<b>SH lead</b>						
<b>TMDL Development</b>	<b>RB lead</b>	<b>2008</b>	<b>2009</b>				
	<b>SH lead</b>						
<b>Implementation Plan</b>	<b>RB lead</b>	<b>2009</b>	<b>2010</b>				
	<b>SH lead</b>						
<b>Basin Plan Amend</b>	<b>RB lead</b>	<b>2009</b>	<b>2010</b>				

**Table 2. Detailed Schedule of TMDL Activities (next five years)**

<b>Waterbody name/ reach</b>		New River					
<b>Watershed name</b>		Salton Sea IV					
<b>Hydrologic unit</b>		# 723.10		#		#	
<b>Stressor</b>		<b>Pesticides</b>		<b>Silt</b>		<b>Bacteria</b>	
<b>Activity dates</b>		<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>
<b>Stakeholder (SH) participation</b>	<b>RB lead</b>	<b>2002</b>	<b>2013</b>	<b>1998</b>	<b>2002</b>	<b>1998</b>	<b>2005</b>
	<b>SH lead</b>						
<b>Monitoring</b>	<b>RB lead</b>	<b>2002</b>	<b>2004</b>	<b>1998</b>	<b>2000</b>	<b>1998</b>	<b>2000</b>
	<b>SH lead</b>						
<b>Assessment</b>	<b>RB lead</b>	<b>2004</b>	<b>2008</b>	<b>2000</b>	<b>2001</b>	<b>2000</b>	<b>2005</b>
	<b>SH lead</b>						
<b>TMDL Development</b>	<b>RB lead</b>	<b>2008</b>	<b>2013</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2005</b>
	<b>SH lead</b>						
<b>Implementation Plan</b>	<b>RB lead</b>	<b>2013</b>	<b>2014</b>	<b>2002</b>	<b>2003</b>	<b>2005</b>	<b>2006</b>
	<b>SH lead</b>						
<b>Basin Plan Amend</b>	<b>RB lead</b>	<b>2013</b>	<b>2014</b>	<b>2002</b>	<b>2003</b>	<b>2005</b>	<b>2006</b>

**Table 2. Detailed Schedule of TMDL Activities (next five years)**

<b>Waterbody name/ reach</b>		New River					
<b>Watershed name</b>		Salton Sea IV					
<b>Hydrologic unit</b>		# 723.10		#		#	
<b>Stressor</b>		<b>Nutrients</b>					
<b>Activity dates</b>		<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>
<b>Stakeholder (SH) participation</b>	<b>RB lead</b>	<b>2002</b>	<b>2010</b>				
	<b>SH lead</b>						
<b>Monitoring</b>	<b>RB lead</b>	<b>2002</b>	<b>2006</b>				
	<b>SH lead</b>						
<b>Assessment</b>	<b>RB lead</b>	<b>2006</b>	<b>2018</b>				
	<b>SH lead</b>						
<b>TMDL Development</b>	<b>RB lead</b>	<b>2008</b>	<b>2010</b>				
	<b>SH lead</b>						
<b>Implementation Plan</b>	<b>RB lead</b>	<b>2010</b>	<b>2011</b>				
	<b>SH lead</b>						
<b>Basin Plan Amend</b>	<b>RB lead</b>	<b>2010</b>	<b>2011</b>				



**Table 2. Detailed Schedule of TMDL Activities (next five years)**

<b>Waterbody name/ reach</b>		PV Drains					
<b>Watershed name</b>		Palo Verde Valley					
<b>Hydrologic unit</b>		# 715.40		#		#	
<b>Stressor</b>		<b>Bacteria</b>					
<b>Activity dates</b>		<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>	<b>Start</b>	<b>End</b>
<b>Stakeholder (SH) participation</b>	<b>RB lead</b>	<b>2005</b>	<b>2011</b>				
	<b>SH lead</b>						
<b>Monitoring</b>	<b>RB lead</b>	<b>2005</b>	<b>2007</b>				
	<b>SH lead</b>						
<b>Assessment</b>	<b>RB lead</b>	<b>2007</b>	<b>2009</b>				
	<b>SH lead</b>						
<b>TMDL Development</b>	<b>RB lead</b>	<b>2009</b>	<b>2011</b>				
	<b>SH lead</b>						
<b>Implementation Plan</b>	<b>RB lead</b>	<b>2011</b>	<b>2012</b>				
	<b>SH lead</b>						
<b>Basin Plan Amend</b>	<b>RB lead</b>	<b>2011</b>	<b>2012</b>				

